REMARKS/ARGUMENTS

This amendment is submitted in response to the Office Action dated December 28, 2007. Claim 1 has been amended to improve its readability. It is considered that no change in the claim scope has been made by this amendment. Claims 1-19 are currently pending in the present application. Reconsideration and allowance is respectfully requested in view of the remarks below.

Claims 1-19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent no. 6,412,007 (hereinafter "Bui") in view of U.S. Patent no. 6,757,679 (Fritz). This rejection is traversed and reconsideration is requested for the reasons which follow.

Bui relates to the problem of controlling and monitoring the number of concurrent user sessions established on a computer network at a given time (column 1, lines 53-55 of Bui). In particular, Bui relates to a mechanism that can be used to control and manage the number of sessions that can be established with a network access server by a particular user or group of users (hereinafter "user") for accessing a network system (column 3, lines 36-40 of Bui) in order to ensure that the authorized number of concurrent sessions agreed upon for the particular entity to which the user belongs is not exceeded. Entities in the Bui system have subscribed for network access for a particular maximum number of concurrent sessions (these are the authorized sessions) and thus the network must include a means for ensuring that users from that entity do not exceed the authorized limit of concurrent sessions for that entity.

Bui's system is designed to provide speedy authorization procedures for users of a system that belong to a single entity but are located at a plurality of different locations. The Bui system is also designed to ensure that the predetermined maximum number of concurrent sessions authorized for a particular entity is not exceeded at any given time. To that end, Bui proposes a system using one or more local distribution session counters (DSC's) each of which is located on a local server that serves a particular user location, and an authoritative DSC located on a server connected to all of the local servers.

The session authorization method of Bui follows a two-phase approach, involving a first phase at the local DSC and a second phase at the authoritative DSC. A user transmits a session authorization request to a local DSC. Each local DSC has a local session counter and a local session threshold. The local session counter indicates the number of sessions that are currently

active for users from a particular entity that are located at the location served by the local DSC. The local session threshold determines the number of sessions for a particular entity that may be concurrently active at the location served by the local DSC before further sessions cannot be authorized by the local DSC (column 4, lines 1-9 of Bui). In response to the session authorization request, the local DSC compares the number of sessions that are currently established for that particular entity at the location served by the local DSC with the local threshold value that is maintained for that particular location of that particular entity (column 5, line 67 – column 6, line 3 of Bui). If the number of currently established sessions at the location served by the local DSC is below the local session threshold, the local DSC itself authorizes the additional requested session. In this case, the authorization is speedy (see FIG. 2B, step 3B of Bui, "the FAST LANE authorization"). If the number of currently established sessions at the location served by the local DSC is at or above the local threshold value, the local DSC does not authorize the session and, instead, the session authorization request is forwarded to the authoritative DSC for handling (column 6, lines 16-26 of Bui).

The authoritative DSC of Bui is provided with a global session counter which indicates the total number of concurrently established sessions for a particular entity. This total includes all currently established sessions for users at all of the locations for that particular entity over the entire network. Once a session authorization request is forwarded to the authoritative DSC, the authoritative DSC compares the value of the global session counter to a total session threshold value which specifies the total number of concurrent sessions that may be authorized for that particular entity over the entire network (column 6, lines 30-40; column 12, lines 6-23 of Bui). If the value of the global session counter is below the total session threshold, the authoritative DSC authorizes the session for that particular user. If the value of the global session counter is at or above the total session threshold, the authoritative DSC rejects the session authorization request. Use of the authoritative DSC to authorize a session is referred to as the SLOW LANE authorization and is depicted in FIG. 2A of Bui.

The Bui system is designed to maximize the number of session authorizations that are granted using FAST LANE authorization, while at the same time providing for a SLOW LANE authorization step which guarantees that session authorization requests from a particular entity will be authorized up to the total session threshold for that entity for the entire network,

irrespective of how many session authorization requests have been authorized for a particular location of that entity.

There is an essential difference between the system of the present invention and the system of Bui, since the system of the present invention controls the simultaneous handling of log-on requests, whereas Bui controls the authorization of user sessions. In the first sentence of paragraph 4 of the Office Action, it appears that the Examiner equates the control of the simultaneous handling of log-on requests of the present invention to the authorization of sessions as in Bui in support of the rejection. Thus, it appears that the Examiner has overlooked the fact that there are important differences between the simultaneous handling of log-on requests and the authorization of user sessions.

A log-on request is required before a user session can be established (see page 3, line 6 of the present application). The present invention is designed to ensure that a server is not overloaded by having to simultaneously process multiple concurrent log-on requests. The mechanism of Bui does not prevent or address such an overload situation, but only verifies if the number of concurrently active sessions exceeds the total number of sessions for which an entity has subscribed. Bui does not teach or suggest that the counters and thresholds of the local and authoritative DSC's should keep track of the number of log-on requests which are being simultaneously processed. Instead, in Bui the counters and thresholds of the local and authoritative DSC's keep track of the number of concurrently active sessions. This is completely different from the system of the present invention.

Thus, as claimed in claim 1, the present invention stops the creation of a user session when more than a maximum number of log-on requests are being processed simultaneously. Bui does not appear to keep track of the number of log-on requests that are being processed simultaneously, but instead keeps track of the number of concurrent active user sessions. In addition, Bui does not appear to set a threshold number of log-on requests that can be processed simultaneously. Thus, Bui cannot stop the creation of a user session when more than a maximum number of log-on requests are being processed simultaneously since the Bui system does not keep track of this number, nor does it include a means for stopping creation of a user session based on the number of log-on requests that are being processed simultaneously. Moreover, since Bui does not set a threshold number of log-on request that can be processed simultaneously, Bui also lacks the feature of the present invention that the threshold number of

log-on requests that can be simultaneously processed is maintained as a variable that can be adjusted.

Thus, to sum up, Bui lacks the following features of claim 1 of the present application:

(1) maintaining a tally of the maximum number of log-on requests being processed simultaneously,

(2) a threshold value of the total number of log-on requests that can be processed simultaneously, and

(3) maintaining the threshold value of the total number of log-on requests that can be processed simultaneously as a variable that can be adjusted.

The problem solved by the present invention as defined in claim 1 is to provide a method of controlling the creation of a user session in a multi-user computer system that takes into account different levels of resources and/or requests for user sessions, while allowing efficient use of the available resources. The problem is solved by maintaining the maximum number of log-on requests which can be simultaneously processed as a variable which can be adjusted. Thus, the maximum number of log-on requests that can be simultaneously processed can be adjusted to take into account the availability of computer resources for this purpose.

As discussed above, this aspect of the present invention is not taught or suggested by Bui which controls the number of concurrent user sessions but does not even mention keeping track of the number of log-on requests that are being processed simultaneously. Moreover, the solution to the problem provided by the present invention is not attainable from the teachings of Fritz. Neither Fritz nor Bui provides any teaching as to how to address the problem addressed by the present invention, namely, to allow a limited set of computer resources to efficiently host multiple user sessions on a multi-user computer system by adjusting the resources allocated to creation of user sessions. Bui controls the number of concurrently authorized user sessions but does not exercise control over the amount of resources allocated to the creation of user sessions as in the present invention.

Fritz does not disclose the claimed features of: (1) a method of controlling the creation of a user session, (2) processing of a log-on request by a user at a terminal, (3) that the creation of the user session is halted when more than a maximum number of log-on requests is being processed, and (4) that the maximum number of log-on requests is maintained as a variable which can be adjusted in the multi-user computer system.

The Examiner admitted in paragraph 4 of the Final Rejection dated November 28, 2006 that Fritz does not mention that the requestor may be making a log-on request. Thus, since Fritz does not even contemplate the making of log-on requests, a skilled person would certainly not derive from Fritz the concept of maintaining the maximum number of log-on requests that are being simultaneously processed as a variable that can be adjusted.

Instead, Fritz teaches a hardware implementation of a queue management system on a chip (See col. 2, lines 27-30 of Fritz). In the hardware implementation of Fritz, the queues consist of m queue-base units representing the m tops of queues (See col. 2, lines 44-45 of Fritz). Each queue-base unit has access to the add- and remove-input lines of the device implementing the queue management system (See col. 2, lines 61-63 of Fritz). The amount of hardware needed for m queues grows linearly with m (See col. 4, lines 13-15 of Fritz). Thus, m is not maintained as a variable which can be adjusted, but rather is a constant determined by the amount of hardware resources included on the chip of Fritz. Thus, the system of Fritz does not maintain the maximum number of requests as a variable that can be adjusted.

Accordingly, since Fritz says nothing about log-on requests Fritz immediately lacks two features of claim 1 of the present application, namely: (1) processing a log-on request entered by a user at a terminal, and (2) maintaining the maximum number of log-on requests that are processed simultaneously as a variable that can be adjusted should there be a change in user demand. This is important since Bui also does not disclose either of these features of claim 1. As a result, the Examiner has not made out a case of *prima facie* obviousness since several features of claim 1 are lacking from all of the references cited in support of the rejection.

Fritz says that, "In most cases, the maximum number of outstanding requests per requestor o at a given time is limited such that the total number of requests at a given time is n=oxp." See col. 2, lines 24-26 of Fritz. Fritz then says that, "In said hardware implementation the queues consist of ... n so-called queue elements representing the n requests. Each request...must be associated with a queue element." See col. 2, lines 44-48 of Fritz. Fritz also

states that, "The advantage of this implementation is that the amount of hardware needed for n elements grows linearly with n..." See col. 4, lines 12-13 of Fritz. The number of requests "n" of Fritz is determined by the hardware queue elements and thus the number of requests "n" cannot be dynamically adjusted.

Since Fritz is a hardware implementation, none of the numbers n (the maximum number of possible requests), p (the number of requesters), and o (the maximum number of outstanding requests per requester at a given time) are variables. In fact, each of these numbers is a constant determined by the hardware elements. The Examiner has nowhere shown that Fritz contemplates that any of n, p or o would be variable in a given hardware system. Thus, Fritz does not contemplate dynamic adjustment of the maximum number of user sessions since in the hardware implementation of Fritz, the numbers n (the maximum number of possible requests), p (the number of requesters), and o (the maximum number of outstanding requests per requester at a given time) are all constants determined by the amount of hardware used to build the system.

The Examiner relies on a combination of Fritz and Bui to support the present rejection. The Applicant respectfully submits that a *prima facie* case of obviousness has not been established by the combination of Bui with Fritz.To establish a case of *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See also M.P.E.P. § 2143.

As discussed above, Bui does not teach maintaining the maximum number of logon requests that can be processed simultaneously as a variable that can be dynamically adjusted should there be a change in user demand. Rather, Bui counts the number of concurrent user sessions, rather than the number of log-on requests being processed simultaneously. In Fritz, the hardware determines the maximum number of requests and the maximum number of requests that can be handled by the hardware system of Fritz is a constant not a variable. Accordingly, since neither Bui nor Fritz discloses this feature of claim 1 of the present application, the combination of Bui with Fritz does not make out a case of *prima facie* obviousness against claim 1.

Claims 10 and 14 define a multi-user computer system and computer program for controlling the creation of a user session in a multi-user computer system in terms of features corresponding to those set forth in method claim 1. Consequently, the same arguments and

reasoning apply to claims 10 and 14 as are given for claim 1 above. Dependent claims 2-9, 11-13 and 15-18 are unobvious for at least the same reasons as given above for claims 1, 10 and 14.

Claim 19 contains the additional requirement that, "...said system including an adjustment mechanism for dynamically adjusting the maximum number of user sessions which can be processed simultaneously." Thus, claim 19 is clearly patentable over a combination of Bui and Fritz for the reasons given above and because neither Bui nor Fritz teaches or suggests the provision of an adjustment mechanism for adjusting the maximum number of user sessions which can be processed simultaneously. The underlined words are important since Bui does not appear to set a maximum number of log-on requests for user sessions that can be processed simultaneously, but rather sets a maximum number of user sessions that can be concurrently active. Thus, the system of Bui does not include an adjustment mechanism as claimed in claim 19.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine,* 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Thus, claims 2-9, 11-13 and 15-18 are considered to be unobvious for at least the same reasons as given above with respect to claims 1, 10 and 14.

For the above reasons, it is submitted that a *prima facie* case for obviousness has not been established since the limitations of the independent claims are not taught or suggested by Bui and Fritz. It is therefore submitted that claims 1-19 are in condition for allowance.

Reconsideration and allowance is respectfully requested in view of the remarks made above.

Respectfully submitted,

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